



PROTECTION AND CONTROL RELAYS

WARNING AND SIGNAL RELAYS

GSN-01 Synchronoscope

INTRODUCTION: GEMTA ,GSN-01 Synchronoscopes are devices, which when 2 different voltages need to be connected parallel, measure voltage's frequency and phase angles differences as well as control whether the voltage is suitable for parallel connections.

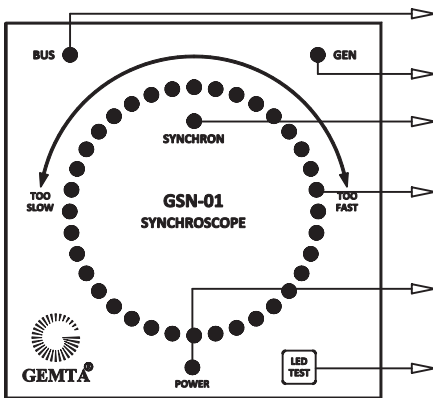
OPERATING PRINCIPLE: Device measures differences between two different voltage's frequency, phase angles (BUS-GEN), voltage and shows the present status on the LED panel. Device consists of 3 units:

a. Power and Measuring Unit: 1-Device Supply Circuits, 2-Measuring Circuits

b. Microprocessor Software Unit:

1-Maesuring, 2-Comparison, 3-Decision-making, 4-Redirecting

c. Led Panel Unit:



BUS Led: Bus voltage in the device, 'Bus' LED on the panel lights up green.

GEN LED: Gen voltage in the device, 'Gen' LED on the panel lights up green.

SYNCHRO LED: When both voltages are equal 'Synchro' LED lights up green.

SIGNAL LEDs: Show frequency and phase differences and light up red.

POWER LED: It shows that the device is active and it lights up green. Normally, when Bus and Gen LEDs are active the device itself is active too.

LED TEST BUTTON: All LED lights on the front panel of the device are activated and tests are performed.

GSN-01 Synchronoscopes control the BUS and GEN voltages' frequencies and phase differences between each other. For example; if BUS voltage is in front of GEN voltage for around 120° the 12th LED light will be activated. Each LED lamp on the front panel of the device complies with 10° angles.

IMPORTANT: In the GSN-01 Synchronoscopes because GEN signal is variable, the fixed network signal BUS is always considered as reference. In order to avoid wrong measurement it is very important to do correct BUS and GEN connections during the installation phase. It is also very important to take into the account the L and N terminal alignments of the connection scheme on the back side of the device or the measurement will be wrong.

CONNECTION AND OPERATION: If GEN voltage is present in the device and BUS voltage is not present, the device will give audible and visible warning in the direction of the BUS (half of the LED lamps circle). The failure is automatically cancelled after the signal activation. If BUS voltage is present in the device and GEN voltage is not present, the device will give audible and visible warning in the direction of the GEN (half of the LED lamps circle). The failure is automatically cancelled after the signal activation. By pressing the LED TEST button on the front panel the test whether all LED lights are working or not can be done. By the normal operation of the device if there are no differences in frequency and phase between 2 signals (BUS and GEN), first the green LED lamps become active and after 3-4 seconds also the SYNCHRO LED is on. At the same time the SYNCHRO relay becomes active.

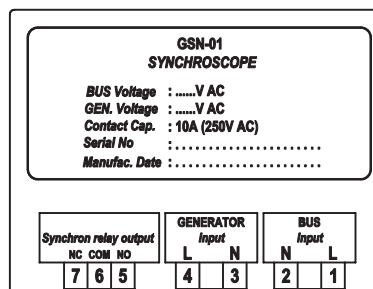
TECHNICAL SPECIFICATIONS:

- 1-Input Voltage : 57.7V AC / 100V AC
- 2-Led Test Function : Button
- 3-Synchron Relay Output : NO-COM-NC
- 4-Synchron Status Indication : LED
- 5-Operating Temperature : 10°C/50°C

MECHANIC SPECIFICATIONS:

- 1-Mounting Type : Panel
- 2-Dimensions : 144 x 144 x 85mm
- 3-Weight : 700gr.
- 4-Package Dimensions : 180 x 170 x 185mm

CONNECTION LABEL



IMPORTANT!

BUS and GEN connections must be done according to the terminals determined on the label or the measurement will be wrong.